

What Is Claimed Is:

1. A magnetic disk apparatus comprising:

a magnetic disk holding data by magnetic information
on a magnetic recording film;

5 a magnetic head with a slider having a heat element
to locally heat said magnetic disk, a write element to
apply a magnetic field modulated by an electric signal to
an area heated by the heat element, and a read element to
convert the magnetic information on said magnetic disk

10 into an electric signal;

an actuator to move said magnetic head along a
circular-arc in a radial direction of the magnetic disk;
and

15 an offsetting mechanism that relatively moves a
position of the area heated by said heat element and a
position of said write element in a width direction of
said slider.

2. The magnetic disk apparatus according to claim 1,

wherein said offsetting mechanism is a heat area

20 offsetting mechanism to move the area heated by said heat
element in the width direction of the slider.

3. The magnetic disk apparatus according to claim 1,

wherein said offsetting mechanism is a write element

offsetting mechanism to move said write element in the

25 width direction of the slider.

4. The magnetic disk apparatus according to claim 1,
further comprising a servo circuit that controls said
offsetting mechanism so as to move the area heated by said
heat element and said write element through the same track.

5 5. The magnetic disk apparatus according to claim 4,
wherein said servo circuit generates an electric output
with an offset amount of said offsetting mechanism
corresponding to a yaw angle of said magnetic head and a
temperature in the magnetic disk.

10 6. The magnetic disk apparatus according to claim 4,
wherein said offsetting mechanism comprises a piezo
element and an elastic member deformed by the piezo
element, and wherein said servo circuit drives said piezo
element to move the area heated by said heat element or
15 said write element in the width direction of said slider.

7. The magnetic disk apparatus according to claim 4,
wherein said offsetting mechanism has a voice coil motor,
and wherein said servo circuit drives said voice coil
motor to move the area heated by said heat element or said
20 write element in the width direction of the slider.

8. The magnetic disk apparatus according to claim 4,
wherein said offsetting mechanism has a capacitance
actuator, and wherein said servo circuit drives said
capacitance actuator to move the area heated by said heat
25 element or said write element in the width direction of

the slider.

9. The magnetic disk apparatus according to claim 4,
wherein said offsetting mechanism comprises a heat
deformation element and an elastic member deformed by the
5 heat deformation element, and wherein said servo circuit
drives said heat deformation element to move the area
heated by said heat element or said write element in the
width direction of the slider.

10. The magnetic disk apparatus according to claim
10 4, further comprising a heating light element movable by
said offsetting mechanism and a mirror movable by said
offsetting mechanism, wherein said servo circuit moves the
heating light element and the mirror while keeping an
approximately parallel positional relation, to move the
15 position of the area on said magnetic disk heated by said
heat element in the width direction of the slider.

11. The magnetic disk apparatus according to claim
4, further comprising a heating light element movable by
said offsetting mechanism, a mirror movable by the
20 offsetting mechanism and an object lens movable by said
offsetting mechanism, wherein the servo circuit moves the
heating light element, the mirror and the object lens
while keeping an approximately parallel positional
relation, to move the position of the area on said
25 magnetic disk heated by said heat element in the width

direction of the slider.

12. The magnetic disk apparatus according to claim 4, wherein said servo circuit and said offsetting mechanism are connected with at least two drive lines.

5 13. The magnetic disk apparatus according to claim 4, further comprising a conversion table between an output value to said offsetting mechanism and a movement distance of the area heated by said heat element or said write element in the width direction of the slider, wherein said 10 servo circuit refers to said conversion table to determine the output value in accordance with a position of said magnetic head in a radial direction of said magnetic disk.

14. The magnetic disk apparatus according to claim 13, wherein said conversion table is generated by 15 adjusting conversion data by performing writing processing and reading processing, while changing the position of said magnetic head in the radial direction of said magnetic disk, and changing the output value to said offsetting mechanism in each radial position.